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ABSTRACT

This study investigated the influence of two different instructional approaches on 298 elementary school students. Two four-week units were taught, the first on movement education and fundamental movement skills, and the second on gymnastics. Two treatment groups were randomly selected, and classes were conducted by six experienced teachers who had been trained in the two teaching styles. In the teacher decision-making group, all decisions relevant to planning, execution, and evaluation of students' performance were made by teacher. In the shared decision group, the students could choose the task to be performed and its level and duration, and could use instructional wall charts or solicit the teacher's assistance. A control group received no physical education. Analyses were made of student attitudes, creativity, motor skills, and self concept. Based on the findings, it is concluded that: (1) Grade level determined the effects of sharing decisions; (2) Any physical education program, regardless of decision making dominance, was better than no program; and (3) Encouraging children to participate in meaningful decision making will increase positive attitudes toward human movement, enhance creative thinking and self concept, and improve motor skills. (FG)

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INFLUENCE OF DECISION-MAKING BY ELEMENTARY CHILDREN ON ATTITUDES, CREATIVITY, MOTOR SKILLS, AND SELF-CONCEPT

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STARTING WITH THE EARLY WORK OF LEWIN, LIPPIT AND WHITE IN 1939, UNDERSTANDING THE CONSEQUENCES OF ALLOWING CHILDREN TO MAKE MEANINGFUL DECISIONS REGARDING THEIR LEARNING HAS BEEN THE CENTRAL AIM PROPELLING A MULTITUDE OF EDUCATIONAL RESEARCH. BELIEVING THE BENEFITS OF PHYSICAL EDUCATION TO BE MULTIDEMENSIONAL, RESEARCHERS HAVE INVESTIGATED THE INFLUENCE OF DECISION-MAKING ON SUCH VARIABLES AS ATTITUDES, HUMAN INTERACTIONS, MOTOR SKILLS, BODY COORDINATION, AND SELF-CONCEPT. HOWEVER, CONSIDERING THE VARIETY, SCOPE AND COMPLEXITY OF FACTORS INHERENT IN THE EDUCATIONAL EXPERIENCES OF CHILDREN, THE AVAILABLE LITERATURE APPEARED TO PROVIDE ONLY A BEGINNING TO COMPREHENDING THE POTENTIAL OF DECISION-SHARED LEARNING. THEREFORE, THE PRESENT INVESTIGATION ENDEAVORED TO EXTEND AND EXPAND THE UNDERSTANDING OF THE CONSEQUENCES OF ALLOWING CHILDREN TO SHARE IN MAKING DECISIONS RELEVANT TO THEIR LEARNING. SPECIFICALLY, THIS STUDY ATTEMPTED TO DETERMINE THE INFLUENCE OF TWO DIVERGENT DECISION-MAKING INSTRUCTIONAL APPROACHES ON ELEMENTARY CHILDREN'S ATTITUDES, CREATIVITY, FUNDAMENTAL MOTOR SKILLS AND SELF-CONCEPT.

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298 STUDENTS FROM DISTRICT I OF THE BOSTON CITY PUBLIC SCHOOL SYSTEM, BOSTON, MASSACHUSETTS SERVED AS SUBJECTS FOR THIS INVESTIGATION. THESE SUBJECTS RANGED IN GRADE FROM FIRST THROUGH FIFTH. THE STUDENTS WERE FURTHER CLASSIFIED BY TREATMENT TO BE RECEIVED. THE SHARED DECISION-MAKING GROUP CONTAINED 65 STUDENTS. THE TEACHER DECISION-MAKING GROUP CONSISTED OF 83 STUDENTS. THE CONTROL GROUP COMPRISED 60 STUDENTS. INFORMED CONSENT WAS OBTAINED FOR THE SUBJECTS INVOLVED IN TESTING.

TREATMENT CLASSES WERE CONDUCTED BY SIX TRAINED GRADUATE STUDENTS FROM THE HUMAN MOVEMENT PROGRAM AT BOSTON UNIVERSITY. THE TEACHERS COMPILED A MEAN AVERAGE OF 7.3 YEARS OF TEACHING EXPERIENCE AND WERE, THEREFORE, CONSIDERED EXPERIENCED TEACHERS. THESE SIX TEACHERS UNDERWENT A TWO-WEEK TRAINING PROGRAM TO FAMILIARIZE THEM WITH THE TEACHING STYLES, TESTING PROCEDURES, RECORD KEEPING AND THE CURRICULUM. ALL TEACHERS TAUGHT IN BOTH TEACHING STYLES.

THE TREATMENT GROUPS RECEIVED RESPECTIVE TREATMENTS ONCE PER WEEK IN 45 MINUTE PERIODS FOR 8 WEEKS. REGARDLESS OF THE TREATMENT GROUP, THE STUDENTS RECEIVED THE SAME CURRICULUM, IN THE SAME AMOUNT OF CLASS TIME, BY THE SAME TEACHERS, USING THE SAME EQUIPMENT. CHILDREN IN THE TREATMENT GROUPS WERE RANDOMLY ASSIGNED TO A TEACHER AND REMAINED WITH THAT TEACHER FOR THE ENTIRE 8 WEEKS. CHILDREN IN THE CONTROL GROUP RECEIVED NO FORMAL PHYSICAL EDUCATION PROGRAM.

IN THE TEACHER DECISION-MAKING GROUP, EACH TEACHER RECEIVED A RANDOM GROUP OF STUDENTS, LINED THEM UP AND LED THEM TO THEIR ASSIGNED TEACHING STATION. AT EACH STATION, THE TEACHER IDENTIFIED THE TASK TO BE PERFORMED, LECTURED AND DEMONSTRATED , AND THEN HAD EACH STUDENT PERFORM THE SKILLS TO THE TEACHER"S SATISFACTION. WHEN EACH STUDENT HAD PERFORMED, THE TEACHER MOVED THE GROUP TO THE NEXT STATION AND REPEATED THE INSTRUCTIONAL PROCESS. HENCE, ALL DECISIONS RELEVANT TO THE PLANNING, EXECUTION AND EVALUATION OF THE STUDENT"S PERFORMANCE WERE MADE BY THE TEACHER.

IN THE SHARED DECISION-MAKING GROUP, EACH TEACHER WAS ASSIGNED A RANDOM GROUP OF STUDENTS AND A SPECIFIC TEACHING STATION. THE STUDENTS WOULD BEGIN WITH ACTIVITIES AT THEIR RESPECTIVE TEACHER"S STATION. AFTER A MINIMUM OF ONE TASK, THE STUDENTS COULD THEN CHOOSE THEIR NEXT STATION, THE TASKS TO BE PERFORMED, THE LEVEL OF PERFORMANCE, AND THE DURATION OF THE TASK PERFORMANCE. ONCE THE STUDENT DECIDED ON A TASK, S/HE HAD A CHOICE OF EITHER USING THE WALL CHARTS LOCATED AT EACH STATION OR SOLICITING THE AID OF THE ASSIGNED TEACHER. THE WALL CHARTS DESCRIBED AND ILLUSTRATED EACH SKILL FOR THAT STATION. THE TEACHER ASSISTED WHEN ASKED, PROVIDED FOR SAFETY, AND ALSO HELPED GUIDE THE STUDENT DURING THE EXPLORATION PHASE OF LEARNING BY ASKING QUESTIONS RELEVAT TO SKILL PERFORMANCE. THUS, THE DECISIONS REGARDING PLANNING, EXECUTION, AND EVALUATION OF THE STUDENT"S LEARNING EXPERIENCE WERE SHARED BY BOTH THE STUDENT AND

THE TEACHER.

THE INSTRUCTIONAL CURRICULUM WAS PRESENTED IN TWO 4-WEEK UNITS. MOVEMENT EDUCATON AND FUNDAMENTAL MOTOR SKILLS COMPRISED THE FIRST UNIT. THE SECOND UNIT PROVIDED THE OPPORTUNITY FOR STUDENTS TO LEARN SKILLS IN GYMNASTICS.

CHEFFERS ADAPTATION OF FLANDERS INTERACTION ANALYSIS SYSTEM, HEREAFTER REFERED TO AS CAFIAS, WAS USED TO IDENTIFY THE TEACHING PATTERNS PRESENT IN THE TREATMENT GROUPS. IN INVESTIGATING IDENTICAL TEACHING APPROACHES, MANCINI, CHEFFERS AND ZAICHKOWSKY (1976) FOUND TWO DISTINCT CAFIAS PATTERNS DEFINED EACH TREATMENT METHODOLOGY. IDENTIFICATION OF THESE PATTERNS IN THE CURRENT TREATMENT METHODS WOULD THUS VALIDATE THE TREATMENT METHODOLOGIES PURPORTEDLY USED. ATTITUDES WERE ASSESSED VIA THE CHEFFERS AND MANCINI HUMAN MOVEMENT ATTITUDE SCALE. THE MINNESOTA TESTS OF CREATIVE THINKING--FORM NVA SERVED AS THE MEASURE OF CREATIVITY. MOTOR SKILLS WERE EVALUATED BY THE JOHNSON FUNDAMENTAL SKILLS TESTS. SELF-CONCEPT SCORES WERE DERIVED USING THE MARTINEK-ZAICHKOWSKY SELF-CONCEPT SCALE.

ANALYSES OF THE CAFIAS DATA REVEALED THE TEACHING BEHAVIOR IN THE TWO TREATMENT GROUPS APPROPRIATE. AN INTEROBSERVER AGREEMENT OF .842 CONFIRMED THESE BEHAVIOR PATTERNS AS RELIABLE INDICES OF THE PURPORTED TEACHING APPROACHES.

THE ATTITUDE SCALE WAS SITUATION-SPECIFIC TO EXPERIENCES

GAINED VIA TREATMENTS. THEREFORE, ATTITUDE SCORES WERE OBTAINED AT THE CONCLUSION OF THE PROGRAM, INSURING THE SUBJECTS TESTED HAD GAINED THE RELEVANT EXPERIENCES. A TREATMENT X SEX X GRADE ANALYSIS OF VARIANCE INDICATED BETWEEN GROUPS DIFFERENCES FOR THE MAIN EFFECTS OF TREATMENT AND GRADE. A MEAN SCORE COMPARISON SHOWED THE SHARED DECISION-MAKING GROUP SIGNIFICANTLY HIGHER THAN THE TEACHER DOMINATED GROUP. A SCHEFFE SPECIFIC COMPARISON TEST ON GRADE LEVEL MEAN SCORES REVEALED FIRST GRADE TO HAVE SIGNIFICANTLY HIGHER SCORES THAN DID CHILDREN IN OTHER GRADES. THESE FINDINGS ARE CONSISTENT WITH STUDIES COMPLETED BY MACHINSKI IN 1975 AND MANCINI, CHEFFERS AND ZAICHKOWSKY IN 1976.

A TREATMENT X SEX X GRADE MULTIVARIATE ANALYSIS OF COVARIANCE, WITH A PRETEST SERVING AS THE COVARIATE, WAS APPLIED TO MEASURES OF CEATIVITY, MOTOR SKILLS AND SELF-CONCEPT. THE FOLLOWING BETWEEN GROUPS DIFFERENCES WERE FOUND: THE TWO TREATMENT GROUPS TOGETHER CONTRASTED WITH THE CONTROL GROUP, AND THE TWO TREATMENT GROUPS CONTRASTED AGAINST EACH OTHER. AN INTERACTION EFFECT BETWEEN TREATMENT AND GRADE WAS ALSO UNCOVERED. UNIVARIATE ANAYSIS OF COVARIANCE IDENTIFIED THE DEPENDENT VARIABLES WHICH ACCOUNTED FOR THESE DIFFERENCES.

SIGNIFICANT DIFFERENCES IN MOTOR SKILLS WERE LOCATED AMONG THE THREE GROUPS. THE SHARED DECISION-MAKING GROUP WAS FOUND SUPERIOR TO THE TEACHER DOMINATED GROUP IN THE AGILITY RUN, THROW & CATCH AND KICKING. THE COMBINED TREATMENT GROUPS WERE FOUND SUPERIOR TO THE CONTROL GROUP IN THE JUMP & REACH TEST. THESE

FINDINGS CONCUR WITH THE BULK OF RELEVANT LITERATURE. THE WRITINGS OF GILLION (1970), MOSSTON (1981) AND HELLISON (1973), COMBINED WITH THE RESEARCH OF KENGIE (1963) AND REAMS (1976) SUPPORT THE CONCLUSION THAT SHARING CLASSROOM DECISIONS WITH CHILDREN SIGNIFICANTLY ENHANCES LEARNING MOTOR SKILLS.

MEASURES OF CREATIVITY REVEALED THE SHARED DECISION-MAKING GROUP SCORED HIGHER THAN THE TEACHER DOMINATED GROUP AND THE COMBINED TREATMENT GROUPS SCORED HIGHER THAN THE CONTROL GROUP. AN INTERACTION EFFECT WAS LOCATED BETWEEN TREATMENT AND GRADE FACTORS.

[SHOW FIGURE 1. HERE]

FIGURE 1. ILLUSTRATES THIS INTERACTION. THIS FIGURE INDICATES LOWER GRADE CHILDREN WERE MORE EASILY INFLUENCED BY DECISION-MAKING. FURTHER, AS PREVIOUSLY FOUND BY TORRANCE (1968), A TEACHER DOMINATED CLASSROOM SEEMS TO ADVERSELY AFFECT FOURTH GRADE CHILDREN"S CREATIVITY. RESEARCH ON PHYSICAL EDUCATION PROGRAMS AS AN AFFECTOR OF CREATIVITY IS LIMITED AND INCONSISTENT. THIS, ALONG WITH THE FINDINGS OF THIS STUDY, SUGGEST A NEED FOR FURTHER EXPLORATION OF THE POTENTIAL OF PHYSICAL EDUCATION FOR ENHANCING THE CREATIVITY OF CHILDREN.

A SIGNIFICANT DIFFERENCE ON MEASURES OF SELF-CONCEPT INDICATED HIGHER SCORES BY CHILDREN ENCOURAGED TO SHARE IN DECISION-MAKING. THIS FINDING WAS IN AGREEMENT WITH CONCLUSIONS REACHED BY MARTINEK, ZAICHKOWSKY AND CHEFFERS (1977). AN INTERACTION WAS REVEALED BETWEEN TREATMENT AND GRADE ON

SELF-CONCEPT.

[SHOW FIGURE 2. HERE]

THIS GRAPHIC DISPLAY SHOWS CHILDREN IN LOWER GRADE LEVELS ARE MORE INFLUENCED BY TREATMENT, WITH SHARED DECISION-MAKING THE MORE POSITIVE INFLUENCE. AGAIN, A FOURTH GRADE STUDENT"S SELF-CONCEPT APPEARED ADVERSELY AFFECTED BY A TEACHER DOMINATED ENVIRONMENT.

BASED ON THE FINDINGS OF THIS STUDY, THE FOLLOWING CONCLUSIONS WERE MADE. FIRST, THE SHARING OF DECISIONS IN A CLASSROOM MAY HAVE DIFFERENT AFFECTS DEPENDING UPON GRADE LEVEL. ALLOWING CHILDREN TO MAKE DECISIONS SEEMED TO HAVE THE STRONGEST POSITIVE INFLUENCE IN THE LOWER GRADES WITH RESPECT TO ATTITUDES, CREATIVITY AND SELF-CONCEPT. DENYING CHILDREN AN OPPORTUNITY TO MAKE DECISIONS APPEARED TO HAVE AN ADVERSE AFFECT ON FOURTH GRADE CHILDREN"S SELF-CONCEPT AND CREATIVITY. SECONDLY, IT WAS SHOWN THAT RECEIVING A PHYSICAL EDUCATION PROGRAM, REGARDLESS OF THE DECISION-MAKING DOMINANCE, WAS MORE BENEFICIAL TO ELEMENTARY CHILDREN THAN NO PROGRAM AT ALL. AND FINALLY, IT WAS CONCLUDED THAT IF A TEACHER DESIRES TO INCREASE POSITIVE ATTITUDES TOWARD HUMAN MOVEMENT, ENHANCE CREATIVE THINKING, IMPROVE FUNDAMENTAL MOTOR SKILLS AND DEVELOP A HEALTHIER SELF-CONCEPT IN ELEMENTARY CHILDREN, IT APPEARS THESE GOALS ARE SUCCESSFULLY MET BY ENCOURAGING CHILDREN TO MAKE MEANINGFUL DECISIONS REGARDING THEIR LEARNING.

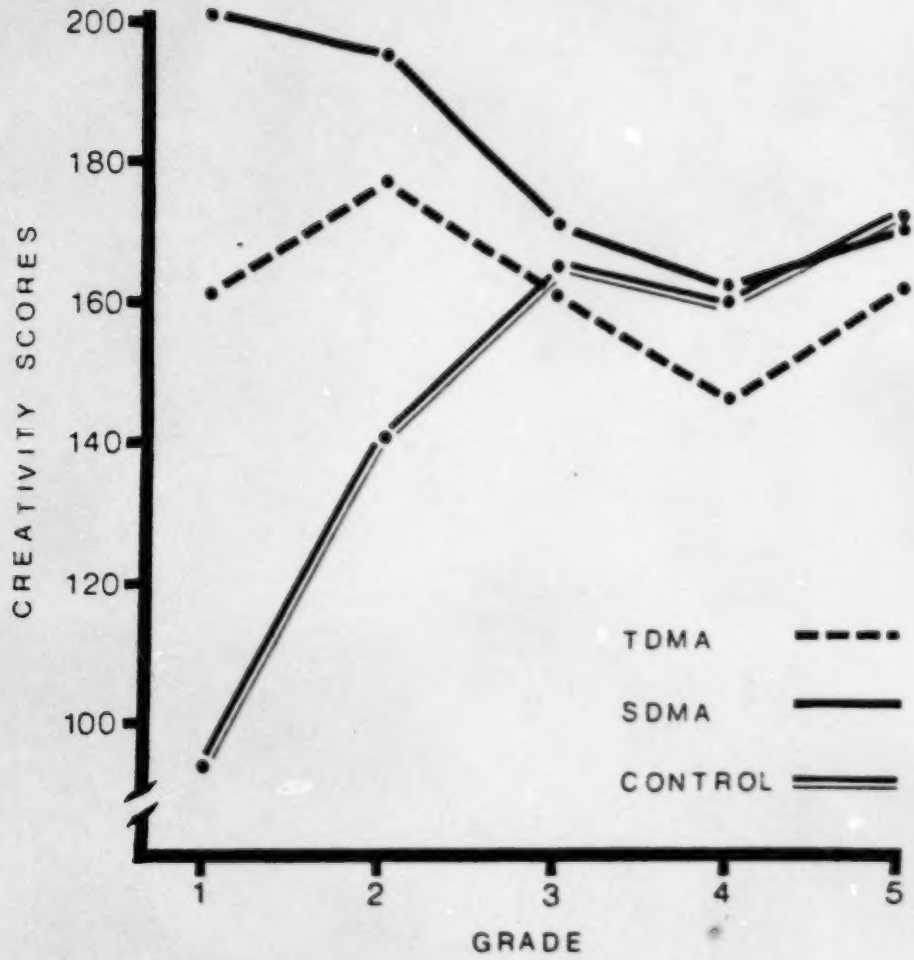

Figure 1. Treatment X Grade Interaction Effect on Creativity

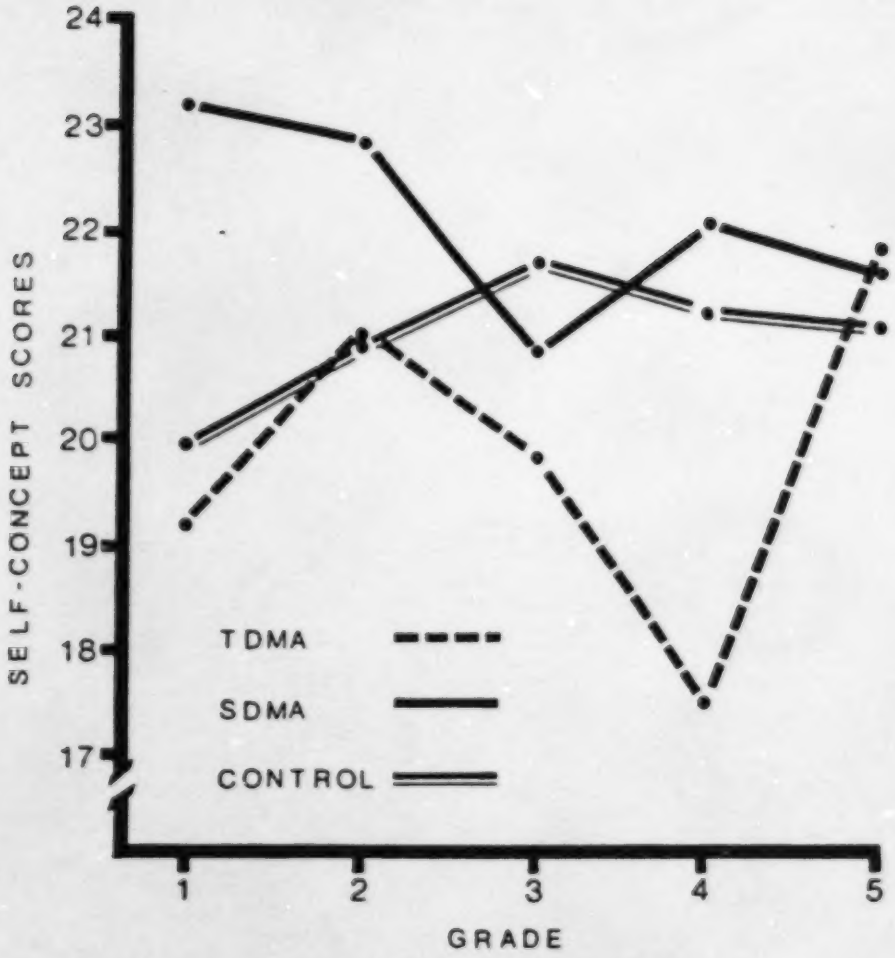

Figure 2. Treatment X Grade Interaction Effect on Self-Concept